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09/749,303	12/27/2000	Jeffrey Chan	243768021US	5430

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EXAMINER

STEVENS, THOMAS H

ART UNIT PAPER NUMBER

2123

DATE MAILED: 04/21/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/749,303

Applicant(s)

CHAN ET AL.

Examiner

Thomas H. Stevens

Art Unit

2123

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/27/00 & 2/26/02.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date (5) 2/26/02
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-41 was examined for prosecution.

Drawings

2. Figures 1-4 disclose significant properties of the turbine's application via a graphic user interface and thus should be labeled as prior art.

Duty to Disclose All Prior Art

3. Figures 1-4 referenced software entitled, "Turbine Optimizer". Please submit any information regarding this product. Applicants are respectfully reminded of their duty to provide all prior art at the time of application submission, see 37 C.F.R. 1.56.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

6. Claims 6, 13, and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "average performance" is vague.

7. Claims 11 and 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject

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matter which applicant regards as the invention. The phrase "various readings" is vague and indefinite.

8. Claims 7, 14, and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "highest performance" is indefinite.

10. Furthermore, claims 14, 20, 25, 26, 32, and 33 the phrase "similar" renders the claims indefinite, thereby rendering the scope of the claims unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 1-9, 11-18, 20-29, 31-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Reed et al. ("Developing Interactive Education Engineering Software for the World Wide Web with Java" ACM, 1998).

Reed et al. teaches a gas turbine simulation system which utilizes the Java language environment software across the Internet (abstract).

Claim 1: A method in a computer system for determining performance of a turbine (Reed: abstract), the method comprising: receiving from a user an identification of a turbine (Reed: pg. 3, left column, paragraph 1); retrieving configuration information for the identified turbine; determining current performance characteristics of the turbine (Kita: figure 1 and figure 24 (block 32)) based on the retrieved configuration information; sending to the user a display page for displaying the determined current performance characteristics (Reed: pg.6, right column, paragraph 4; and pg.7 left column, first paragraph); receiving from the user an indication of a modification to the configuration of to the identified turbine; determining future performance characteristics of the identified turbine based on the indicated modification to its configuration; and sending to the user a display page for displaying the determined future to performance characteristics.

Claim 2: The method of claim 1 wherein the determining of the current performance characteristics includes simulating the current performance characteristics based on various readings collected from the identified turbine (Reed: pg. 3, left column, Analysis Mathematical Model, lines 18-21).

Claim 3: The method of claim 2 wherein the simulating of the current performance characteristics includes estimating fuel (Reed: pg. 4, figure 1, GUI Hierarchy, Control Volume Dialog-Fuel Source Dialog) flow by repeatedly simulating the current performance characteristics with a varying fuel flow until a desired combustor efficiency is achieved (Reed: pg. 7, left column, second paragraph).

Claim 4: The method of claim 1 wherein the determining of the current performance characteristics includes adjusting initial performance characteristics based on length of time the identified turbine has been in operation (Reed: pg.7, left column, 2nd and 3rd paragraphs).

Claim 5: The method of claim 1 wherein the determining of the current performance characteristics includes measuring the performance characteristics of the turbine (Reed: pg.7, left column, 2nd).

Claim 6: The method of claim 1 wherein the display page includes an indication of average performance characteristics for similar turbines (Reed: pg. 8, figure 7).

Claim 7: The method of claim 1 wherein the display page (Reed: pg. 5, figure) include an indication of highest performance characteristics for similar turbines.

Claim 8: The method of claim 1 wherein the display page includes a graph illustrating performance characteristics (Reed: pg. 7, figure 7).

Claim 9: The method of claim 8 wherein the graph includes a background with colors that transition from a shade of red to a shade of yellow to a shade of green (Reed: pg. 5, right column, Engine Schematic Layout Window, lines 6-7).

Claim 11: A method in a computer system for determining performance of a Turbine (Reed: abstract), the turbine having a configuration, the method comprising: simulating a current performance characteristic based on various readings collected from an identified turbine; receiving from a user an indication of a modification to the configuration of the identified turbine; determining a future performance characteristic of the identified turbine based on the indicated modifications to its configuration; and sending to the user a display page for displaying the determined future to performance characteristic (Reed: pg. 3, Java Gas Turbine Simulation Software and Analysis Mathematical Model).

Claim 12: The method of claim 11 wherein the simulating of the current performance characteristic includes estimating fuel flow by repeatedly simulating the current (Reed: pg. 4, figure 1, GUI Hierarchy, Control Volume Dialog-Fuel Source Dialog) performance characteristic with a varying fuel flow until a desired

combustor efficiency (Reed: pg. 4, GrControl Volume Icon, Combustor Icon) is achieved.

Claim 13: The method of claim 11 wherein the display page includes an indication of an average for the performance characteristic for similar turbines (Reed: pg. 8, figure 7).

Claim 14: The method of claim 11 wherein the display page includes an indication of a highest performance characteristic for similar turbines (Reed: pg. 8, figure 7).

Claim 15: The method of claim 11 wherein the display page includes a graph illustrating performance characteristics (Reed: pg. 8, figure 7).

Claim 16: The method of claim 15 wherein the graph includes a background with colors that transition from a shade of red to a shade of yellow to a shade of green (Reed: pg. 5, right column, Engine Schematic Layout Window, lines 6-7).

Claim 17: The method of claim 11 wherein the display page is a web page (Reed: abstract).

Claim 18: The method of claim 11 wherein the display page is sent via the Internet (Reed: abstract).

Claim 20: A method in a computer system for displaying a performance characteristic of a turbine, the method comprising: sending an identification of a turbine; and receiving a display page indicating a performance characteristic of the identified turbine relative to the performance characteristic for similar turbines (Reed: abstract).

Claim 21: The method of claim 20 including sending an indication of a modification (Reed: pg.7, right column, Transcript Window, lines 1-4;and figure 6) to the identified turbine; and receiving a display page indicating the performance characteristic of the identified turbine with the indicated modification.

Claim 22: The method of claim 20 wherein the display page includes financial Information elating to possible modifications to the identified turbine (Reed: pg.7, right column, Transcript Window, lines 1-4;and figure 6).

Claim 23: The method of claim 20 wherein the performance characteristic of the identified turbine is displayed as a graph (Reed: pg. 7, figure 7).

Claim 24: The method of claim 23 wherein the graph indicates the performance characteristic for similar turbines (Reed: pg. 7, figure 7).

Claim 25: The method of claim 24 wherein the graph includes an indication of an average performance characteristic for similar turbines (Reed: pg. 7, figure 7).

Claim 26: The method of claim 24 wherein the graph includes an indication of a highest performance characteristic for similar turbines (Reed: pg. 7, figure 7).

Claim 27: The method of claim 23 wherein the graph includes a background with colors that transition from a shade of red to a shade of yellow to a shade of green (Reed: pg. 5, right column, Engine Schematic Layout Window, lines 6-7).

Claim 28: A computer-readable medium containing instructions for controlling a computer system to determine a performance characteristic of a turbine, the turbine having a configuration, by a method comprising: simulating a current performance characteristic based on various readings collected from an identified turbine (Reed: abstract); receiving an indication of a modification to the configuration of the identified turbine (Reed: pg.6, right column, paragraph 4); and determine a future performance characteristic, if the identified turbine based on the indicated modifications to its configuration.

Claim 29: The computer-readable medium of claim 28 wherein the simulating of the current performance characteristic includes estimating fuel flow by repeatedly simulator (Reed: pg. 4, figure 1, GUI Hierarchy, Control Volume Dialog-Fuel Source Dialog) the current performance characteristic by varying fuel flow until a desired combustor efficiency is achieved.

Claim 31: The computer-readable medium of claim 28 including sending a display page for displaying the determined future performance characteristic (Reed: pg. 7, figure 7).

Claim 32: The computer-readable medium of claim 31 wherein the display page includes an indication of an average for the performance characteristic for similar turbines (Reed: pg. 7, figure 7).

Claim 33: The computer-readable medium of claim 31 wherein the display page includes an indication of a highest performance characteristic for similar turbines (Reed: pg. 7, figure 7).

Claim 34: The computer-readable medium of claim 31 wherein the display pages includes a graph illustrating the performance characteristics (Reed: pg. 7, figure 7).

Claim 35: The computer-readable medium of claim 34 wherein the graph includes a background with colors that transition from a shade of red to a shade of yellow to a shade of green (Reed: pg. 5, right column, Engine Schematic Layout Window, lines 6-7).

Claim 36: The computer-readable medium of claim 31 wherein the display page is a web page (Reed: abstract).

Claim 37: The computer-readable medium of claim 31 wherein the display page is sent via the Internet (Reed: abstract).

Claim 38: A computer system for determining a performance characteristic of a Turbine, the turbine having a configuration, comprising (Reed: abstract): means for receiving an indication of a modification to the configuration of an identified turbine (Reed: pg.6, right column, paragraph 4); and means for determining a future performance characteristic of the identified turbine based on the indicated modifications to its configuration.

Claim 39: The computer system of claim 38 including: means for simulating a current performance characteristic based on various readings collected from the identified turbine (Reed: pg. 7, left column, Graphing Windows, 1st paragraph).

Claim 40: The computer system of claim 39 wherein the means for simulating the current performance characteristic includes means for estimating fuel flow by repeatedly simulating (Reed: pg. 4, figure 1, GUI Hierarchy, Control Volume Dialog-Fuel Source Dialog) the current performance characteristic by varying fuel flow until a desired combustor (Reed: pg. 4, GUI Hierarchy, GrControl Volume Icon, Combustor Icon) efficiency is achieved.

Claim Rejections - 35 USC § 103

13. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that

the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

15. Claims 10,19,30 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed et al. ("Developing Interactive Education Engineering Software for the World Wide Web with Java" ACM, 1998) in view of Kita et al.(U.S. Patent 5,886,895 (1999)).

Reed et al. teaches a gas turbine simulation system which utilizes the Java language environment software across the Internet (abstract); but doesn't teach financials.

Kita et al. teaches calculating optimum operation parameters of a boiler-turbine-generator (BTG), while taking into account cost (abstract and figure 1 (blocks 71-73)).

At the time the invention was made, it would have been obvious to one of ordinary skill in the art to use Kita et al. to modify Reed et al. since it would have been advantageous for quality control personnel, internal and external, to simulate real-time operations to capture empirical financial data for feasibility studies and cost benefit analysis,

Claim 10: The method of claim 1 including receiving financial information (Kika: figure 1, (blocks 71,76)) relating to operation of the identified turbine and estimating revenue generated from the identified turbine with the indicated modification (Reed: pg.6, right column, paragraph 4; and pg.7 left column, first paragraph).

Claim 19: The method of claim 11 including receiving financial information (Kika: figure 1, (blocks 71,76)) relating to operation of the identified turbine and estimating revenue generated from the identified turbine with the indicated modification (Reed: pg.6, right column, paragraph 4; and pg.7 left column, first paragraph).

Claim 30: The computer-readable medium of claim 28 including receiving financial information (Kika: figure 1, (blocks 71,76)) relating to operation of the identified turbine and estimating revenue generated from the identified turbine with the indicated modification (Reed: pg.6, right column, paragraph 4; and pg.7 left column, first paragraph).

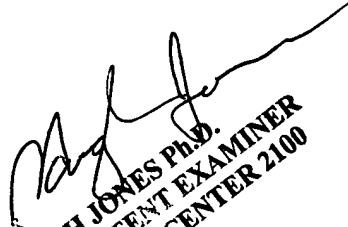
Claim 41: The computer system of claim 38 including means for receiving financial information(Kika: figure 1, (blocks 71,76)) relating to operation of the identified turbine and means for estimating revenue generated from the identified turbine with the indicated modification (Reed: pg.6, right column, paragraph 4; and pg.7 left column, first paragraph).

Correspondence Information

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom Stevens whose telephone number is (703) 305-0365, Monday-Friday (8:30 am- 5:30 pm) or contact Supervisor Mr. Kevin Teska at (703) 305-9704. The fax number for the group is 703-872-9306. Any inquires of general nature or relating to the status of this application should be directed to the Group receptionist whose phone number is (703) 305-3900.

April 9, 2004

THS


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